Involving the community in data interpretation: the case of Mida Creek

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Involving the community in data interpretation: the case of Mida Creek, Kenya

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Abstract: The paper outlines an approach which has allowed us to involve the local community in the interpretation of data from our mangrove studies. In particular, it deals with preliminary results produced by processing information obtained during the first phase of the research, carried out with participatory attitudes and behaviour.
This experience fits in at the end of a three-year study, during which the relationships between the Mida Creek community and the mangroves were identified and described. It was applied in March and April 1999 and gave us the opportunity to study our data from a novel point of view. Indeed, we were able to detect some relevant details missed before and to gain a better understanding of the situation we studied. We also had the opportunity to raise the topic of possible alternatives to the current mangrove management in order to improve the living conditions of the local people while at the same time respecting the natural environment.

Key words: Participatory methodology, Kenya, mangroves, sustainable development.

Introduction

Interviews still represent the main tool in socio-economic surveys for development projects. Often interviews prove to be restrictive due to negative attitudes and behaviours which develop during the survey.

This paper provides an example of the positive influence on fieldwork progress and on results obtained by an approach which considers communities' ways of behaving and thinking. In fact, the role of the outsider may change from investigator into facilitator by focusing on attitudes and behaviour. Consequently the survey may turn from extractive into participatory, giving rise to a planning process that originates in the community itself.

Getting under way

The research focused on the relationships between the mangrove ecosystem and human activities in order to identify possible conditions for a sustainable management of mangroves both on socio-economic and ecological bases.

During the first phase of the research, the practice of participatory methods (AA.VV, 1991 and AA.VV, 1995) such as transept walks, sea and mangrove maps, drawing matrices to rank fish and mangrove resources, seasonal calendars and the daily routine, gave us the opportunity to initiate a friendly relationship with the local community. This proved to be of great value for the development of our study and for clarification of the relationship between the community and the surrounding natural environment. We then used the wealth-ranking method, introduced by Grandin (1988), to select a sample of families who were asked to respond to semi-structured interviews. The aim of the questions was to identify the contribution of mangrove resources to the family economy, describing it even in quantitative terms. In this phase of the research, according to the participatory methodology, we took great care to put the informants at ease; for this reason, we chose to take notes of the meetings on large sheets of paper, placed in a position easily viewed by each participant.

The framework that we will try to describe here, as simply as the local people explained it to us, is what we knew after the first phase of the research took place.

The site, located about 80 km north of Mombassa, is populated by almost 750 families settled along the coast of the creek since 1936. They are farmers coming from the nearby hinterland whose main source of income remains agriculture. However, other important activities for the family economy are hotel employment in Watamu and Malindi, the small trade of farm products or of items bought from nearby traders and sold in the villages of the area, and fishing. Even though practised only in the creek with simple utensils (hand lines and sometimes nets and canoes), fishing is very important, especially for poor families, since it is often the only possible means to supplement the income from farming.

Cutting the mangroves to obtain timber for building did not seem to be practised by the locals; indeed, current laws ban them from cutting trees, even to construct their own houses. In contrast, licenses to cut mangroves are given to traders, who do not live in the area.

Under Forestry Department (F.D.) supervision, they are involved in cutting, transporting and selling the timber. The F.D. gives permission to the local inhabitants only to cut firewood for their own consumption.

During the survey activities carried out with the local community, they proved to be experts on the creek and the mangroves. They linked the presence of fish in the creek directly to the health of the mangrove. Their knowledge of the relationship between the mangroves and the fish, an essential subsistence resource for many of them, led them into replantation schemes in two areas of the creek, managed by the community itself.

The following matrix (elaborated in March 1998) reports important information such as the mangrove species present in the creek, how the locals perceive the changes in quantity of the species and their different uses (ranked with scores from zero to five). Finally, the informants ranked the price of each different tree.

NAME OF TREES	*LOCAL NAME*	*TREND*	*BUILDING TIMBER*	*FIREWOOD*	*CHARCOAL*	*FISHING MATERIAL*	*PRICE*
Sonneratia alba	*Mlilana*	↔					
Avicennia marina	*Mchu*	↔					
Xylocarpus granatum	*Mkumafi*	↔					
Rizophora mucronata	*Mkoko*	↓					
Ceriops tagal	*Mkandaa*	↓					
Bruguiera gymnorrhiza	*Muia*	↓					

Sita, 14/03/1998 - Elaborated by: Amos Kenga, Kaingu Kenga, Kwicha Mwamure, Katana Jefwa, Benson Tsuma

Even a quick look of the matrix reveals that the decline of the present species can be attributed to the cutting of building timber to put on the market, while the local consumption has had no effect on the presence of the trees.

During discussions held while constructing this matrix and in other participatory activities, the local inhabitants proved to have a deep knowledge of the uses of the mangrove described in the matrix. Even though they never admitted to cutting mangroves for building purposes, they knew very well not only which species provide the best timber but also where they are most abundant and their market price.

As mentioned above, the previous information available to us allowed us to sketch out a framework of the area. However, during this first phase, two important questions were raised:

- Why did the local community know everything about mangrove cutting, while stating that they never cut for timber?
- When we compared family income (both monetary and consumable goods) among the three wealth classes identified during the survey, we found no significant quantitative differences between the middle and the poor class. Did we make some mistake in calculating the income?

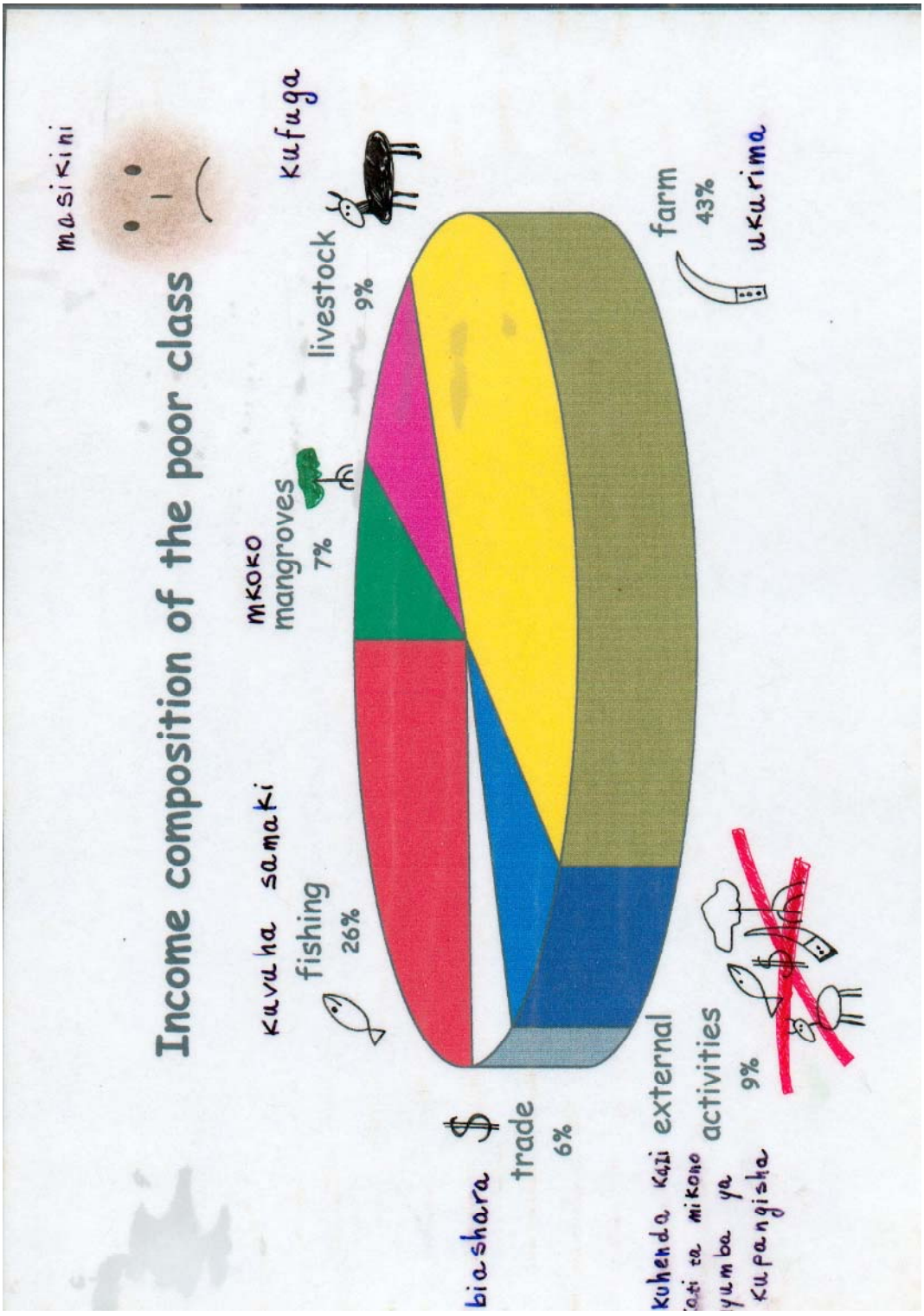
Taking a step forward

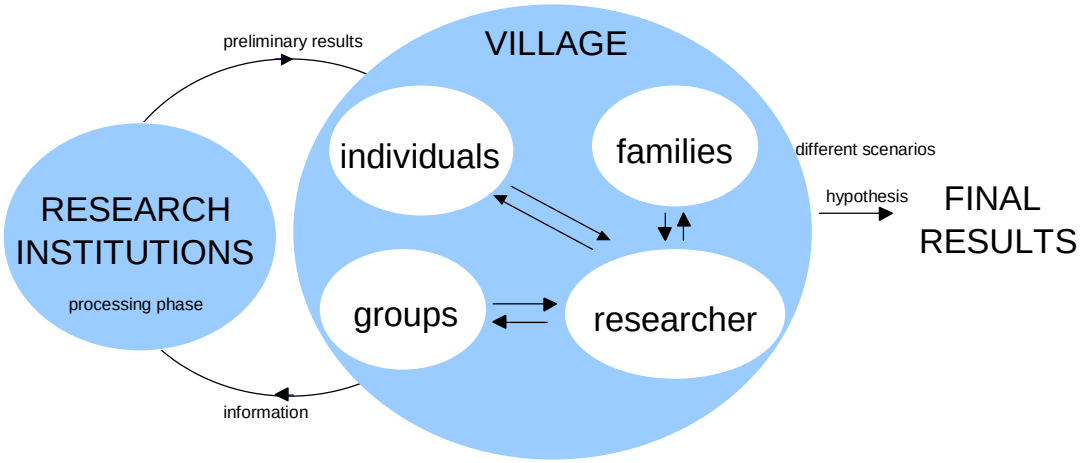
During the first data analysis, we made several graphs (histograms and pie charts) as working tools. They were used to compare the different sources of income among the defined wealth classes and the three areas of the creek where the survey was carried out. In fact, each area is characterised by pedological factors and by different periods of settling that influenced the size of the farms and the lifestyle of the people.

We decided to start the new phase of the research with these graphs and to make them as easily understandable as possible in order to discuss them with the locals. Since some of our informants might not have had the chance to attend school, we illustrated the graphs not only with titles and tags written in the local language, but also with some ideograms (see the example below).

During the field work, we were surprised to notice how easily the local people understood the graphs and how actively they participated in the discussions that followed our introduction. These discussions were sometimes guided by our questions, but very often arose naturally from their considerations.

The following scheme shows the different phases of the research. It starts and ends in the village itself.


Income composition of the poor class
masikini
kufuga
livestock
9%
mkoko
mangroves
7%
kuvuha samaki
fishing
26%
farm
43%
ukurima
biashara $
trade
6%
kuhenda kazi external
activities
9%



In short, the key aspects of the process were:

- This practice provided for more than one visit to the village in the course of the year, which allowed us to initiate a friendly relationship with the community and to gain their trust.
- It gave the local community the opportunity to analyse, reflect and discuss aspects of the situation in which they live and which they defined in the previous phase of the research.

This experience allowed us to achieve some goals:

- *Answering unresolved questions.*

Concerning the first question that arose in the previous phase of the research, the community of Mida Creek explained to us that they do cut mangrove trees for building material even though the practice is illegal. Without this activity, they could not meet the expenses of some basic needs. They pointed out that this activity is a very important source of income for them, especially for the poor families, providing them with money for health care or child education. Together with them, we could estimate (in quantitative terms) how important the mangrove cutting is for the families belonging to the three wealth classes. In order to quantify the average annual income of this activity for the three wealth classes, we decided to organise and facilitate some meetings with groups of men (most probably involved in mangrove cutting). Every meeting with a new group started with the presentation of some selected graphs. Then, using casuarina seeds

as scores, the groups elaborated a matrix in which they described how important mangrove cutting was for the wealth classes in terms of income. At that time, we changed the position of the casuarina seeds, placing them in line so that the matrices became histograms, and, following the example of the graphs we showed, we asked the groups to complete the histogram and give each class a monetary income (equal to the average annual income, including family consumption). Finally, we asked them to divide the total income into the monetary and consumption components. It was necessary to hold these meetings more than once in order to obtain the final result. However, they have prevented us from underestimating the importance of the mangrove exploitation for the community.

Concerning the second question, we were able to verify the reliability of our data in order to interpret the results more clearly. The difference between the middle class and poor families cannot be explained by annual income itself, as the local people confirmed, but by the composite income. In fact, the incomes of the poor and middle class families do not differ in quantity, since both of them are not far from subsistence. What distinguishes them is how they reach that level: while the poor people are always in uncertain conditions, struggling against poverty, the middle class families can rely on farm income which provides them with better living conditions and food security. Therefore, while the middle class families can generally satisfy their basic needs, the poor ones have to miss some meals and cannot afford to send their children to school or to go to the hospital when sick.

- *Identifying some relevant factors not previously detected.*

This approach gave us the chance to investigate some aspects that were neglected in the first phase of the research. Their importance emerged in the analysis of the socio-economic situation from the point of view of the local community. Therefore, we could characterise better the three areas of the creek studied and the three wealth classes.

- *Introducing discussion of the problems of the area and discovering possible and sustainable alternatives to the current management, both on socio-economic and ecological bases.*

Thanks to the good relationships resulting from this practise, we were able to raise and discuss with the community the problems and contradictions of the area. In this way, it could become clear that the

mangrove cutting (not only that practised by the local inhabitants but also the more dangerous cutting for trade) could easily get out of control, with obvious consequences for the natural environment that might adversely affect the local economy. These ideas gave rise to the need to discover a possible alternative to the current management of the area. This alternative should provide the local inhabitants, presently engaged in the exploitation of this resource, the chance to supplement their farm income and satisfy their basic needs. This is the direction towards which we have moved together.

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